doremi

Technology Leadership
for Digital Cinema

Generation 3D

Test Pattern Generator

User Manual

Version 1.3

Compliant with Generation 3D firmware version 1.2.0
and Doremi Universal Interface software version 4.6.0

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Software License Agreement

The software license agreement can be found at the following location:
http://www.doremilabs.com/support/proav-support/proav-warranties/

Hardware Warranty

The hardware warranty can be found at the following location:
http://www.doremilabs.com/support/proav-support/proav-warranties/

HDMI

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

WARNING

THIS DEVICE MUST BE GROUNDED

IMPORTANT

Power requirements for electrical equipment vary from area to area. Please ensure that the Generation 3D meets the power requirements in the surrounding area. If in doubt, consult a qualified electrician or a Doremi Labs dealer.

Generation 3D Power Ratings

- AC Input: 100-240V~, 0.12A, 50-60Hz
- Maximum Power Consumption: 15W

Generation 3D Rack Mount and Thermal Information

- Maximum operating ambient temperature is 30°C.
- Never restrict the air flow through the devices' fan or vents.
- When installing equipment into a rack, distribute the units evenly. Otherwise hazardous conditions may be created by an uneven weight distribution.
- Connect the unit only to a properly rated supply circuit. Reliable earthing (grounding) of rack-mounted equipment should be maintained.

Protecting Yourself and the Generation 3D

Never touch the AC plug with wet hands. Always disconnect the Generation 3D from the power supply by pulling on the plug not the cord. Allow only a Doremi Labs dealer or qualified professional engineer to repair or reassemble the Generation 3D. Apart from voiding the warranty, unauthorized engineers might touch live internal parts and receive a serious electric shock. Do not put, or allow anyone to put any object, especially metal objects, into the Generation 3D.

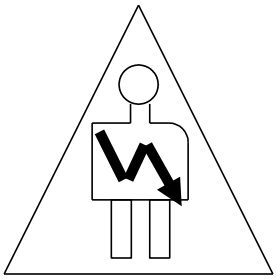
If water or any other liquid is spilled into or onto the Generation 3D, disconnect the power and call a Doremi dealer. The unit must be well ventilated and away from direct sunlight. To avoid damage to internal circuitry, as well as the external finish, keep the Generation 3D away from direct sources of heat (heater vents, stoves, radiators). Avoid using flammable aerosols near the Generation 3D. They can damage the surface area and may ignite. Do not use denatured alcohol, paint thinner, or similar chemicals to clean the Generation 3D. This can damage the unit.

Modification of this equipment is dangerous and can result in the functions of the Generation 3D being impaired. Never attempt to modify the equipment in any way. In order to ensure optimum performance of the Generation 3D, select the setup location carefully and make sure the equipment is used properly. Avoid setting up the Generation 3D in the following locations:

- In a humid or dusty environment.
- In a room with poor ventilation.
- On a surface which is not level.
- Inside a moving vehicle where it will be subject to vibration.
- In an extremely hot or cold environment.

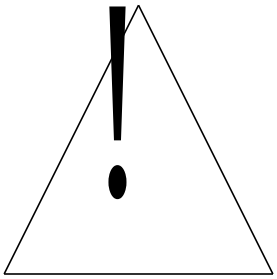
WARNING!!

To prevent fire or shock hazard, do not expose this appliance to rain or moisture

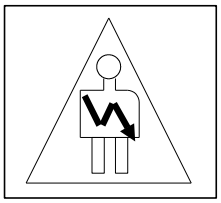


CAUTION

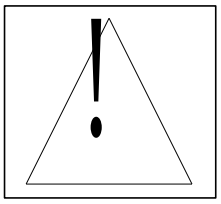
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with the arrowhead symbol superimposed across a graphical representation of a person, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1 Introduction

The Generation 3D is a unique and highly versatile 3D test pattern generator that incorporates High-Definition Multimedia Interface technology, dual stream HD/3G-SDI, and single stream HD/3G-SDI. The Generation 3D includes an internal pattern and allows the user to create their own custom patterns to be used with the device. The Generation 3D supports all of the standard 3D formats, including full resolution HDMI® Frame Packing and Dual Stream HD-SDI. The versatility of the Generation 3D makes it ideal for use in evaluating and configuring virtually any stereoscopic setup.

1.1 Purpose

This document provides guidance on how to use the Generation 3D. It explains the front panel, infrared remote control, and the Doremi Universal Interface usage. It also details how to upgrade the firmware via a Secure Digital (SD) memory card or via USB.

1.2 Contact Information

If in need of help or assistance, please contact Doremi Labs Technical Services at **+ 1-818-562-1101** or email at proavsupport@doremilabs.com.

2 Generation 3D Overview

2.1 Generation 3D Description

The Generation 3D is a versatile 3D test pattern generator with both HDMI and SDI outputs. The Generation 3D contains one internal pattern that can be displayed at any of the supported resolutions and in any supported 3D format. The Generation 3D supports the Side by Side, Top and Bottom, Line by Line, Checkerboard, Frame Packing and Dual Stream 3D formats. Users can add their own patterns using ppm image files and the included SD card. The Generation 3D automatically scans the SD card and, once selected, displays the custom patterns in any of the supported 3D formats. The resolution of the custom patterns is dictated by the pattern image size. If the pattern is 1920x1080, then the output resolution is either 1080i or 1080p. There is no scaling. Using the Doremi Universal Interface software, the user can create the ppm image files from a variety of image formats and save them to the SD card in the Generation 3D. Users can also manually add patterns to the SD card using a PC and SD card reader.

2.1.1 Generation 3D Front Panel

- A snap shot of the front panel is illustrated below:

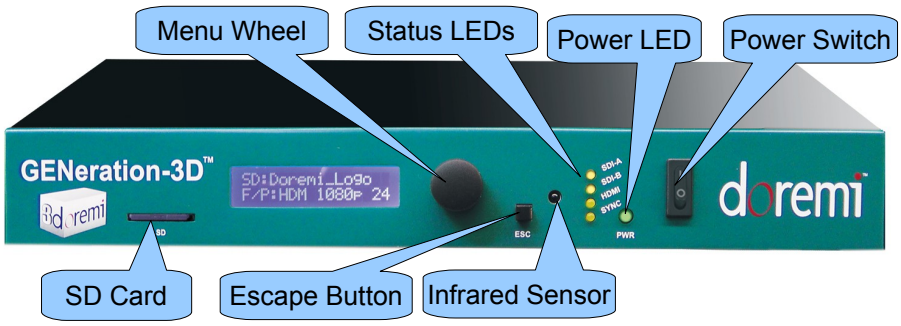


Figure 1: Generation3D Front Panel View

- The front panel LCD screen shows the status of the Generation 3D. It can also be used in conjunction with the scroll wheel to modify the device settings.
- The scroll wheel with built in "Select" button and the "ESC" (escape) button can be used to navigate the menu structure and modify the settings (Figure 1).
- The “PWR” (power) button LED lights up when the Generation 3D is powered on.
- The infra-red sensor can be used to remotely control the Generation 3D (see Section 5).
- A SD memory card slot is available and can be used to load customer patterns and perform firmware updates (see Section 7).

2.1.2 Generation 3D Rear Panel

- The Generation 3D rear panel is illustrated below:

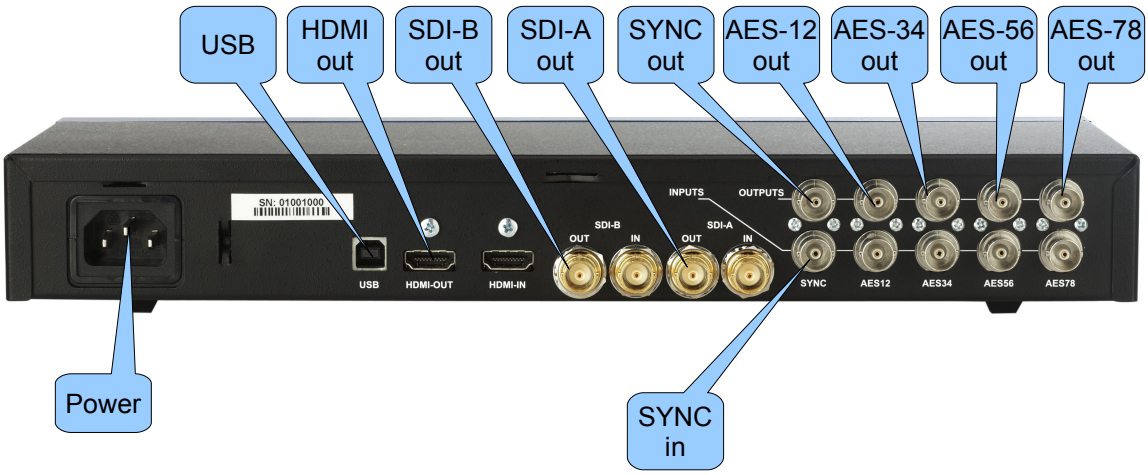


Figure 2: Generation 3D Rear Panel View

- The rear panel has the following connectors:

Connector	Description
USB	USB connector
HDMI in	Not Supported
HDMI out	HDMI output connector
SDI-A out	SDI output connector – Link A
SDI-B out	SDI output connector – Link B
SDI-A in	Not Supported
SDI-B in	Not Supported
SYNC in	Sync input connector
SYNC out	Sync output connector
AES-12 in	Not Supported
AES-12 out	AES audio output connector for audio tracks 1 and 2
AES-34 in	Not Supported
AES-34 out	AES audio output connector for audio tracks 3 and 4
AES-56 in	Not Supported
AES-56 out	AES audio output connector for audio tracks 5 and 6.
AES-78 in	Not Supported
AES-78 out	AES audio output connector for audio tracks 7 and 8
Power	Connector for the power adapter module

2.2 Generation 3D Formats

2.2.1 Supported Formats

- The Generation 3D supports Dual Stream, Side/Side, Line/Line, Frame Packing and checkerboard 3D formats. Frame packing and checkerboard are only supported for HDMI, and Dual Stream is only supported for SDI.
- The Generation 3D supports 720p, 1080i, 1080p and 2Kp (2K at 24p only).
- The Generation 3D comes with one internal pattern that can be set to any of the supported video formats. The resolution of custom patterns is dictated by the pattern's image size. For example, if the image is 1920x1080, then the available resolutions will be 1080p and 1080i.
- SD-SDI 480i and 576i are not supported.
- The Generation 3D supports only ppm images natively. The Doremi Universal Interface software can create ppm images from a variety of different image files which is explained later in this manual.

3 Generation 3D Front Panel Controller

Note: Throughout this section, the phrase “press Select” refers to pressing the front panel Menu Wheel button of the Generation 3D (Figure 1).

3.1 Quick Setup Information

- Setting up the Generation 3D for a specific environment involves selecting three main parameters:
    1. Select the Pattern
    2. Select the Output Interface
    3. Select the Output 3D-mode
- The Generation 3D has many other parameters that can be changed and will be discussed later in this manual, but the three parameters listed above are the most used.

3.2 Menu Items Overview

- The different menus (tabs) are listed below:
- Pattern
- Output
- 3D
- Audio
- System
- To use the menus (tabs) do the following:
- Turn the “Menu Wheel” to enter the Generation 3D menu system.
- Press “Select” to choose one of the above menu items and access its sub-menus.
- Browse the list of available sub-menus by turning the “Menu Wheel.”
- Press "Select" to view the available settings of the selected sub menu.
- Browse the available values by turning the “Menu Wheel.”
- To choose the desired value, press “Select.”
- The selected value will be flagged with the "**#**" sign on its right which is the current setting indicator.
- To go back to a higher level in the menu tree, press the “ESC” button.
- Keep pressing the "ESC" button to exit the menu system.
- The following tables list all Generation 3D set up parameters:
- Items in bold are factory defaults. All video formats show frame rates and not the field rates, as such, 1080i-60 fields per second will be shown as 1080i-30 frames per second.

3.3 Pattern Menu

- The following menu can be used to set up the Pattern parameters.

Sub-Menu	Value	Description
2D	Default	This menu shows the available 2D patterns on the SD card. If there is no SD card present, only the Default pattern will be shown.
3D	Default	This menu shows the available 3D patterns on the SD card. If there is no SD card present, only the Default pattern will be shown.

3.4 Output Menu

- The following menu can be used to set up the output parameters:

Sub-Menu	Value	Description
Interface	HDMI SDI	Select the active output interface. Only one interface is active at a time.
Resolution	720p 1080i 1080p 2Kp	Select the output resolution for the loaded pattern. The available resolutions is dictated by the resolution of the loaded pattern. For example, if the pattern is 1920x1080, then only 1080i and 1080p will be available. All resolutions are available for the default pattern.
Frequency	23.98 24 25 29.97 30 47.95 48 50 59.94 60	Select the output frequency for the loaded pattern.
TimeCode	Off on NDF on DF	Sett the SDI embedded timecode to Non Drop Frame, Drop Frame or off. On DF is only available for 29.97fps and 59.94fps.
Sampling	4:4:4 4:2:2 (A=B)	Set the chroma subsampling to 4:2:2 or 4:4:4 Only available for SDI output.
Color	RGB RGB ext YCbCr YCxCz' XYZ’	Set the output colorspace. Ext: designates extended color range (full bandwidth) as opposed to limiting the color spectrum to comply with ITU standards.

3.4.1 Color Space

- The ITU-R BT.709-5 (HD formats) standard defines the range of color values in a digital signal to be 16 to 240 for 8bit coding. The Generation 3D supports the ITU standard, but it also supports the full range RGB colorspace by allowing the color values to be 0 to 255 for 8bit RGB. On the Generation 3D, the full range mode is designated by the "ext" following the color space mode.

3.5 3D Menu

- The following menu can be used to set up the 3D parameters:

Sub-Menu	Value	Description
Enable	On Off	Turn the 3D mode on or off. When set to off, the unit is in 2D mode.
Mode	Side by Side Line by Line Checkerboard Top Bottom Frame Packing Dual Stream Left Right	Select the desired 3D Mode. Frame Packing and Checkerboard are only available for HDMI. Dual Stream is only available for SDI.
Identifier	On Off	Turn on or off the 3D identifier. The 3D identifier puts a L and R in the upper left corner of the Left and Right eye images.
Depth	+/- 20 Pixels	3D depth adjustment.

3.6 Audio Menu

- The following menu can be used to set up the audio parameters:

Sub-Menu	Value	Description
Mute	On Off	Turn the audio output on or off.
HDMI Channel	2, 4, 6, 8	Set the number of active audio channels for HDMI output. Only available if the output interface is HDMI.

Sub-Menu	Value	Description
SDI Group	1 1+2 1+2+3 1+2+3+4	Set the number of active SDI audio groups.
SDI Channel	1, 2, 3, 4	Set the number of active channels per SDI audio group.
Level	-18dB, -12dB, -6dB, 0dB, +6dB, +12dB, +18dB	Audio output level setting.

3.7 System Menu

- The following menu allows access to the system parameters:

Sub-Menu	Description
Save Settings	Save the current settings to flash.
Reset Settings	Reset to the factory default settings.
IR Control	To avoid IR interference when there are multiple Generation 3D units, the user can assign each a different IR code from 0x0 to 0xF (16 total). The default IR code is 0. The user needs to set the DIP switch on the Doremi IR remote accordingly.
Info	This menu contains information about the unit. Serial number, Board Revision, temperature, firmware version, etc.
Update from SD	Update the firmware from the SD card.

4 Using Custom Patterns

The Generation 3D allows users to create their own custom test patterns. Simply create the ppm files, name them accordingly, and place them in a folder on the SD card. The Generation 3D will scan the SD card and determine whether the patterns are 3D or 2D and display them in the Patterns menu.

Customer patterns can be used by manually adding them to the SD card or using the Doremi Universal interface software. This section covers manually adding patterns to the SD card using a PC , for instructions on creating ppm images and saving them to the SD card using the Doremi Universal Interface software see Section 6.4.1.2.

4.1 Supported Image formats

- The Generation 3D supports only ppm images. Any other file type will not be recognized by the Generation 3D.
- Image height and width should conform to one of the resolutions supported by the Generation 3D. If the image size is different than one of the supported resolutions, it will be padded to fit into the closest supported resolution (e.g., 800x600 will be padded to fit 1280x720).
- Supported resolutions are:
  - 1280x720
  - 1920x1080
  - 2048x1080
- Custom patterns must be 8 bit RGB at full range (0-255)
- Images larger than 2048x1080 are not supported.

4.2 File Naming

- 2D images must be named *filename*.ppm (e.g., pattern.ppm)
- 3D Images must have the same filename and be tagged with "_left" and "_right" to identify which eye the image corresponds to (e.g., "pattern_left.ppm" for the left eye image & "pattern_right.ppm" for the right eye image).

4.3 Manually Adding Files to the SD Card

1. Format the SD card as either FAT or FAT 32. NTFS is not supported.
2. Create a folder on the root directory of the SD card named "Patterns". All the patterns will be placed in this folder.
3. Create a folder inside the "Patterns" folder. The name of this folder will be the name displayed on the front panel of the Generation 3D for the pattern contained within.
4. For 3D patterns, place the left and right eye ppm image files in the folder created in step two.
   - For 2D images, place the single ppm image file in the folder created in step two.
5. Insert the SD Card into the Generation 3D and your pattern will be available under the 2D or 3D Patterns sub menu.

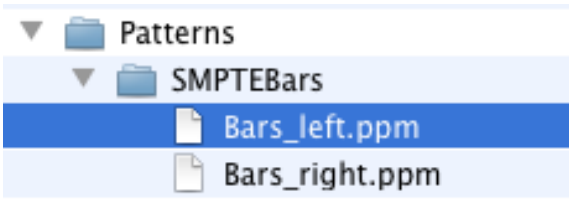


Figure 3: Example File Structure on the SD card

5 Infrared Remote Controller

As an option, the Generation 3D can also be controlled using an Infrared Remote Controller. To purchase the Remote option, contact sales@doremilabs.com

The buttons on the IR remote are used to access the unit while observing the front panel LCD. The "Left" and "Right" arrows are used to navigate between menus and sub-menus. The "Select" button is used to make a selection and the "Exit" button is used to go one level up or exit the menu structure.

5.1 Remote Controller Overview

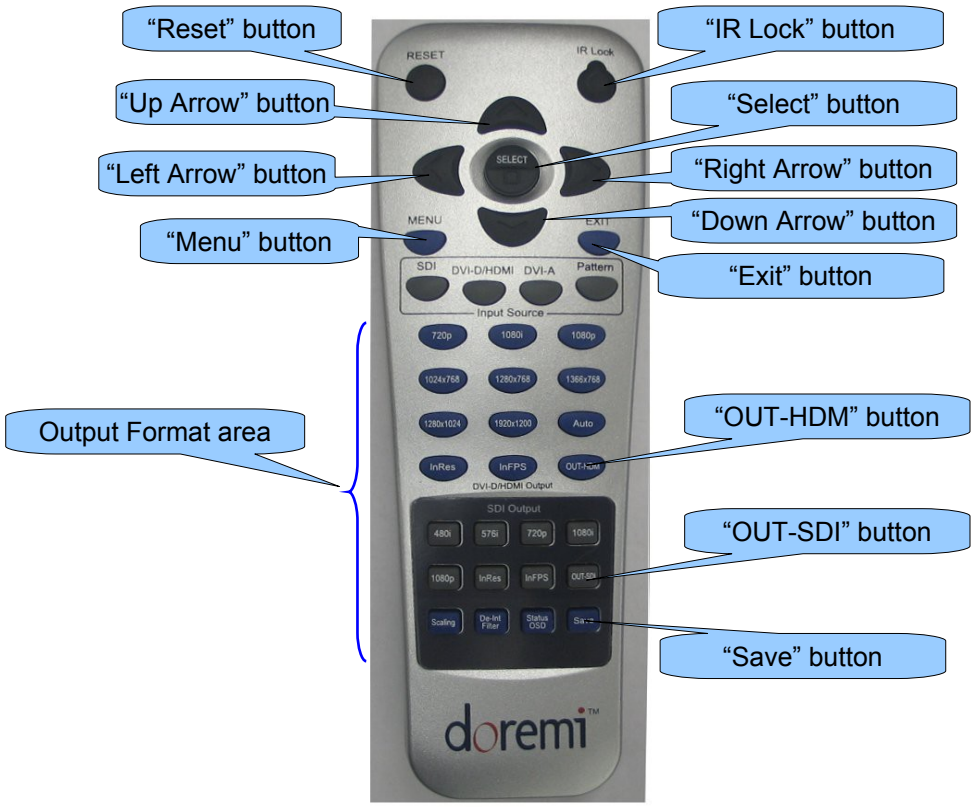


Figure 4: Infrared Remote Controller

- The Remote Controller is divided into four different sections:
  1) RESET/IR Lock buttons
  2) Navigation or Menu System
  3) Input Format (Unused for the Generation 3D)
  4) Output Format

5.2 Remote Controller Functions

Remote Control	Function
Input format selection	Not used
“IR Lock” button	Not used
“RESET” button	Reset the Generation 3D to the factory settings
“Menu” button	Invoke the Menu System. Pressing this button on the IR is similar to turning the Menu Wheel on the Generation 3D front panel
“Exit” button	Go back one menu level. Similar to front panel "ESC" button
Output format area	Select the output interface and resolution
“OUT-HDM” button	Select HDMI as the output interface
“OUT-SDI” button	Select SDI as the output interface
“Up Arrow” button	Not used
“Down Arrow” button	Not used
“Left Arrow” button	Navigate left. Similar to Wheel counter clockwise
“Right Arrow” button	Navigate right. Similar to Wheel clockwise
“Select” button	"Ok/Select" is similar to "Select" on front panel
“InRes” buttons	Not used
“InFPS” buttons	Not used
“Scaling” button	Not used
“De-Int Filter” button	Not used
“Status OSD” button	Not used
“Save” button	Save settings

5.3 Quick Output Format Setting

- To select SDI as the output interface, press the OUT-SDI button.
- After selecting SDI, press the 720p, 1080i or 1080p button in the SDI output section to select the output resolution.

Figure 5: Quick Output SDI Format Setting

- To select HDMI as the output interface, press the OUT-HDM button.
- After selecting HDMI, press the 720p, 1080i, or 1080p button in the HDMI output section to select the output resolution.

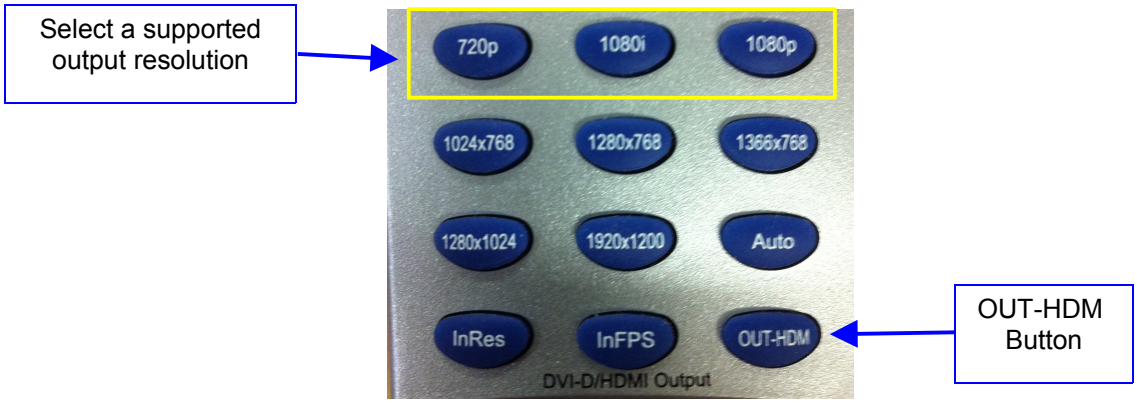


Figure 6: Quick Output HDMI Format Setting

6 Doremi Universal Interface Software (DUIs)

6.1 Doremi Universal Interface Installation

- To install the Doremi Universal Interface software follow the steps below:
- Plug the provided USB cable between the Generation 3D and an available USB port on the PC. See Figure 2 for the USB connector location.
- Power on the Generation 3D.
- If the "Found New Hardware Wizard" window appears, at this stage, click “Cancel”.
- Run the installation package by double-clicking on a file “Doremi_Universal_Interface_Software-4.6.0.exe”, which can be downloaded from http://www.doremilabs.com/
- After the installation is over, the "Found New Hardware Wizard" window will appear.

Note: For Windows 7 users, the “Found New Hardware Wizard” will not appear.

- Follow the steps as written below:
- Select the “No, not this time” option and click on “Next >” (Figure 7).

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel
Click The "No, not this time" Option

Figure 7: "Found New Hardware Wizard” Window – Step 1

- When asked for the type of software installation, choose the option “Install the software automatically (Recommended)” (see Figure 8).

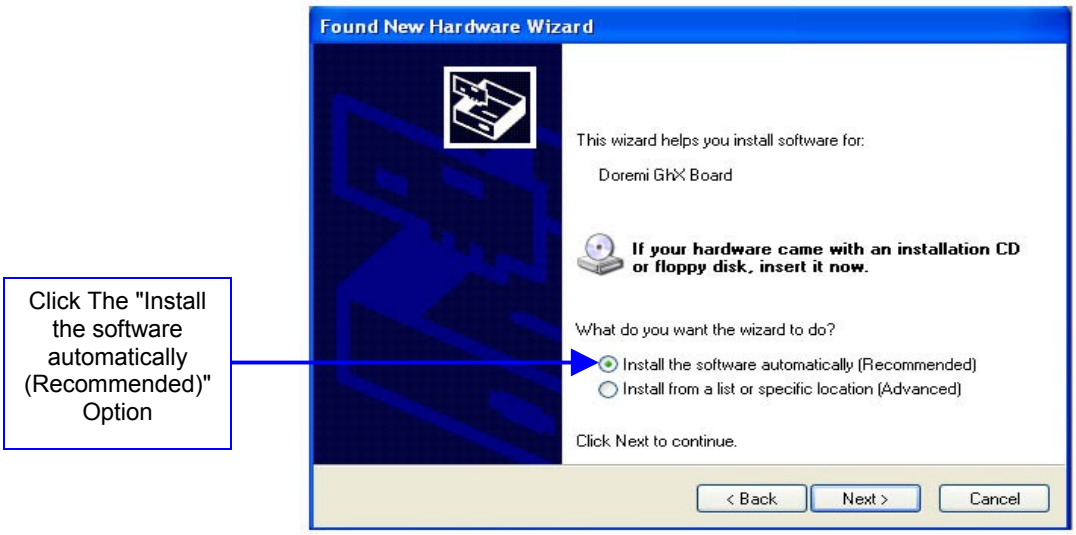

Found New Hardware Wizard
This wizard helps you install software for:
Doremi GhX Board
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel
Click The "Install the software automatically (Recommended)" Option

Figure 8: "Found New Hardware Wizard" Window – Step 2

- Wait for the driver installation to be completed and then click on the "Finish" button to complete the set up (Figure 9).

Figure 9: "Found New Hardware Wizard" Window – Last Step

- Run the "Doremi Universal Interface" GUI and verify that the connection was set up properly by looking at the "Devices" tab, which will show the model and serial numbers.
- If the "Hardware Installation" warning window appears during the installation process, click on the "Continue Anyway" button (Figure 10).

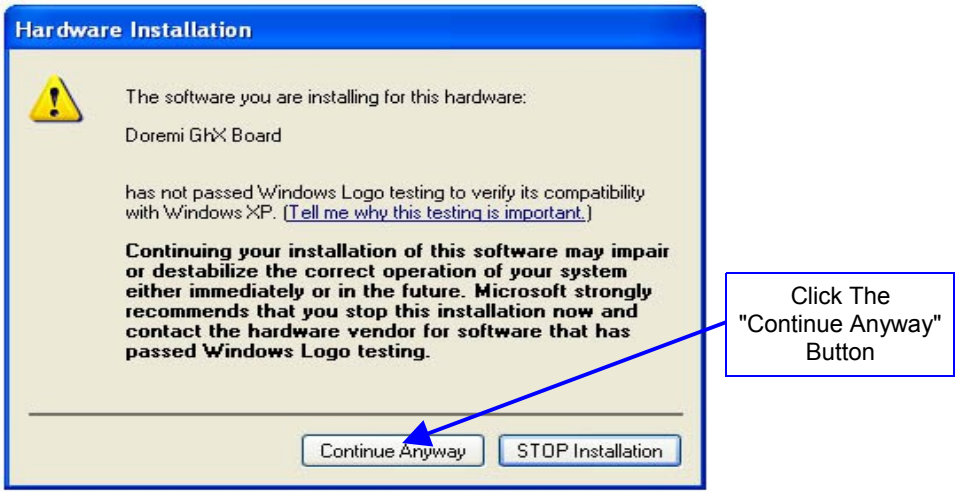

Hardware Installation
The software you are installing for this hardware:
Doremi GhX Board
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
Click The "Continue Anyway" Button

Figure 10: "Hardware Installation" Warning Window

Note: If during the automatic installation process a message appears asking to search for a specific file, do the following:

- Hit "Cancel" and then uninstall the DUIs.
- While the Generation 3D unit is still connected, go to the "Device Manager" and click on "Universal Serial Bus Controllers" and then uninstall Doremi GHX Board.
- Install the DUIs again and recycle the power on the Generation 3D, which will take the user back to Steps 1 and 2 above.

6.2 *Doremi Universal Interface Overview*

The Doremi Universal Interface software consists of a Graphical User Interface (GUI) that can control one or more Generation 3D devices connected to the workstation through a USB.

- When starting the "Doremi Universal Interface," the following window will appear:

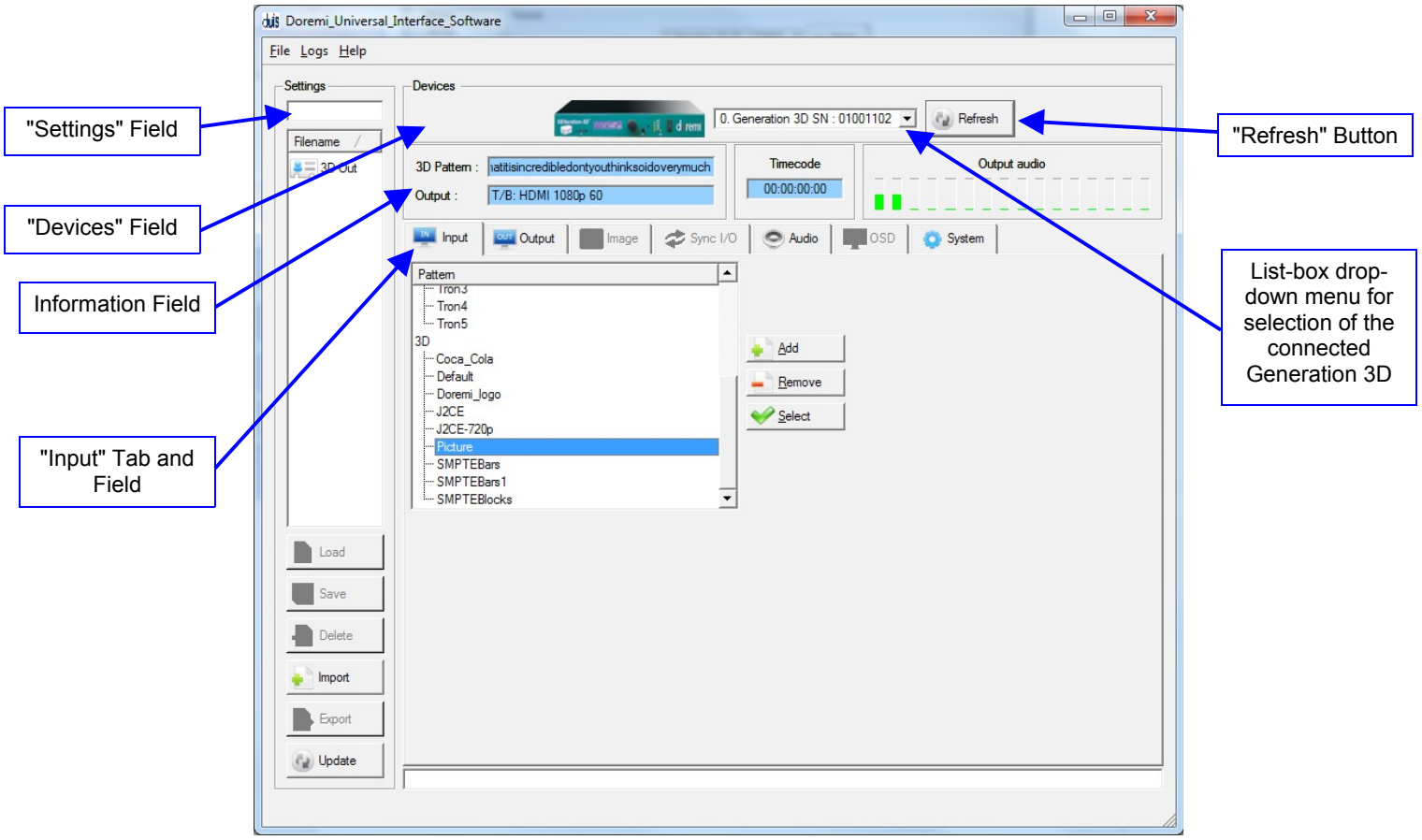


Figure 11: Doremi Universal Interface GUI

- The "Doremi Universal Interface" GUI is composed of the following parts:
- The “Devices” field can be used to select one connected Generation 3D from the drop-down menu. Click on the “Refresh” button to confirm if all the connected Generation 3D units are visible (Figure 11).
- The “Information” field provides information about the input and output interfaces and resolutions. The "Information" field also provides the current "timecode" and audio output levels of the connected Generation 3D device (Figure 11).
- The “Control” field has tabs that can be used to view or modify various settings on the connected Generation 3D unit. These tabs include Input, Output, Audio settings, and System settings. These tabs are explained in detail in Section 6.4 .
- The “Settings” field located on the upper left side of the GUI can be used to manage the settings files (loading, saving, importing, exporting, etc). The “Settings” field is explained in detail in Section 6.3 .

6.3 *Settings Window*

- The “Settings” field is used to manage the settings files.
- To save the current "Doremi Universal Interface" settings into a file, enter a settings file name in the top left corner field as shown below and then click “Save” (Figure 12).
- The saved settings file will appear in the “Settings” window as illustrated below:

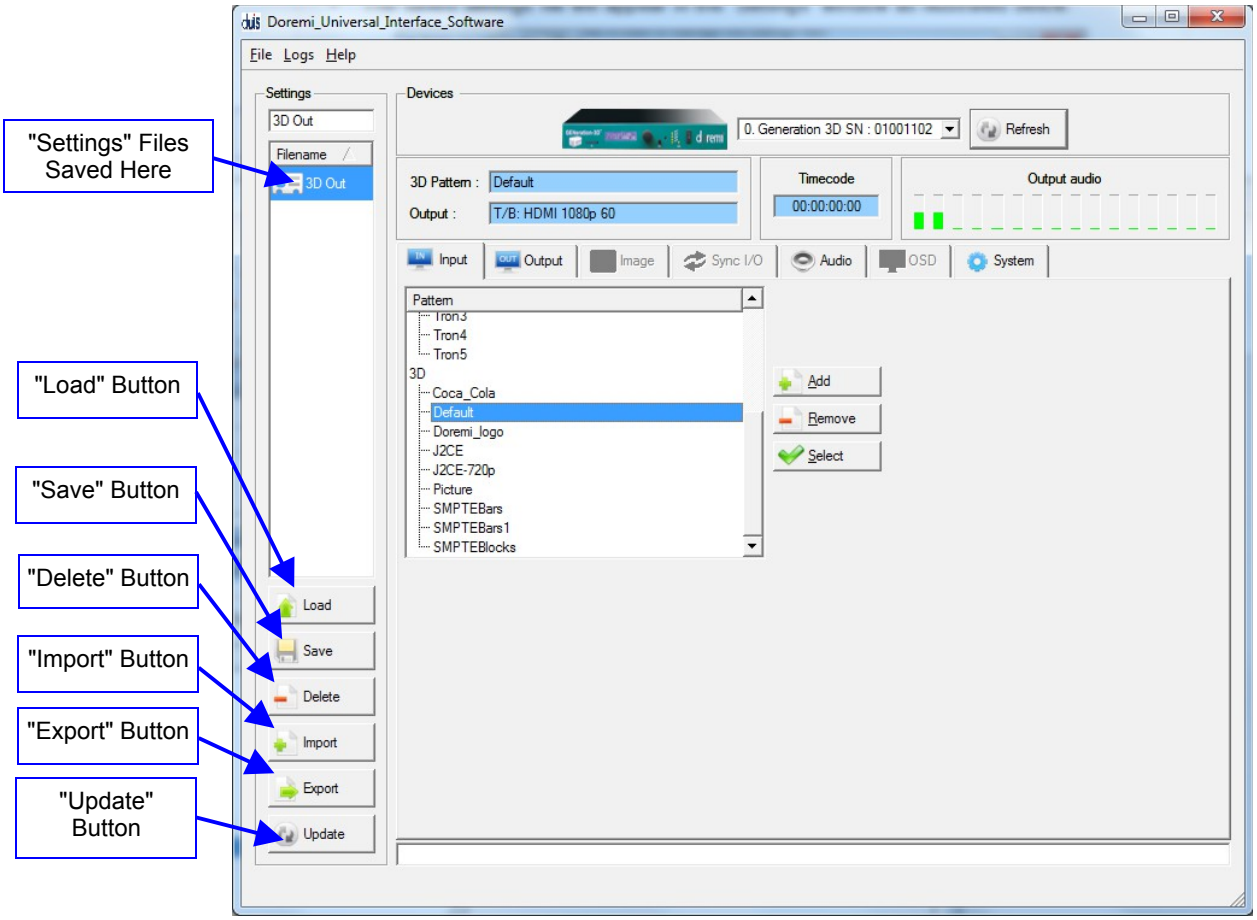


Figure 12: Doremi Universal Interface GUI – Settings Window

- To export a saved “Settings” file to use for another Generation 3D device, select it in the “Settings files” area and click on the “Export” button (Figure 12).
- The user will be asked to confirm where to export the file using a standard “Save as” dialog box (Figure 12).
- To import an existing “Settings” file from a ".ghx" file to the connected unit, click on the “Import” button (Figure 12).
- Browse the files to select the appropriate “Settings” file to import.
- The imported file will appear in the “Settings files” area on the left part of the GUI.
- To apply the settings to the connected Generation 3D unit, select this file and click on the “Load” button. The Generation 3D settings will be updated.
- To delete a settings file present in the “Settings files” area, select it and click on the “Delete” button (Figure 12).
- Click on the “Update” button to update the “Settings” window to reflect the content of the folder where all the "Settings" files are stored (Figure 12).

6.4 Tabs Description

6.4.1 Input Tab

The "Input" tab is presented in Figure 13. The input tab shows the available patterns and can be used to load patterns as well as to save custom patterns from your PC to the SD card in the Generation 3D.

Doremi Universal Interface software can create custom patterns from the following image types.

- GIF, JPG, PNG, PNM, XBM, XPM, BMP and PPM.

6.4.1.1 Loading Patterns

- To load a pattern, select the 2D or 3D pattern from the Patterns List and press “Select.”

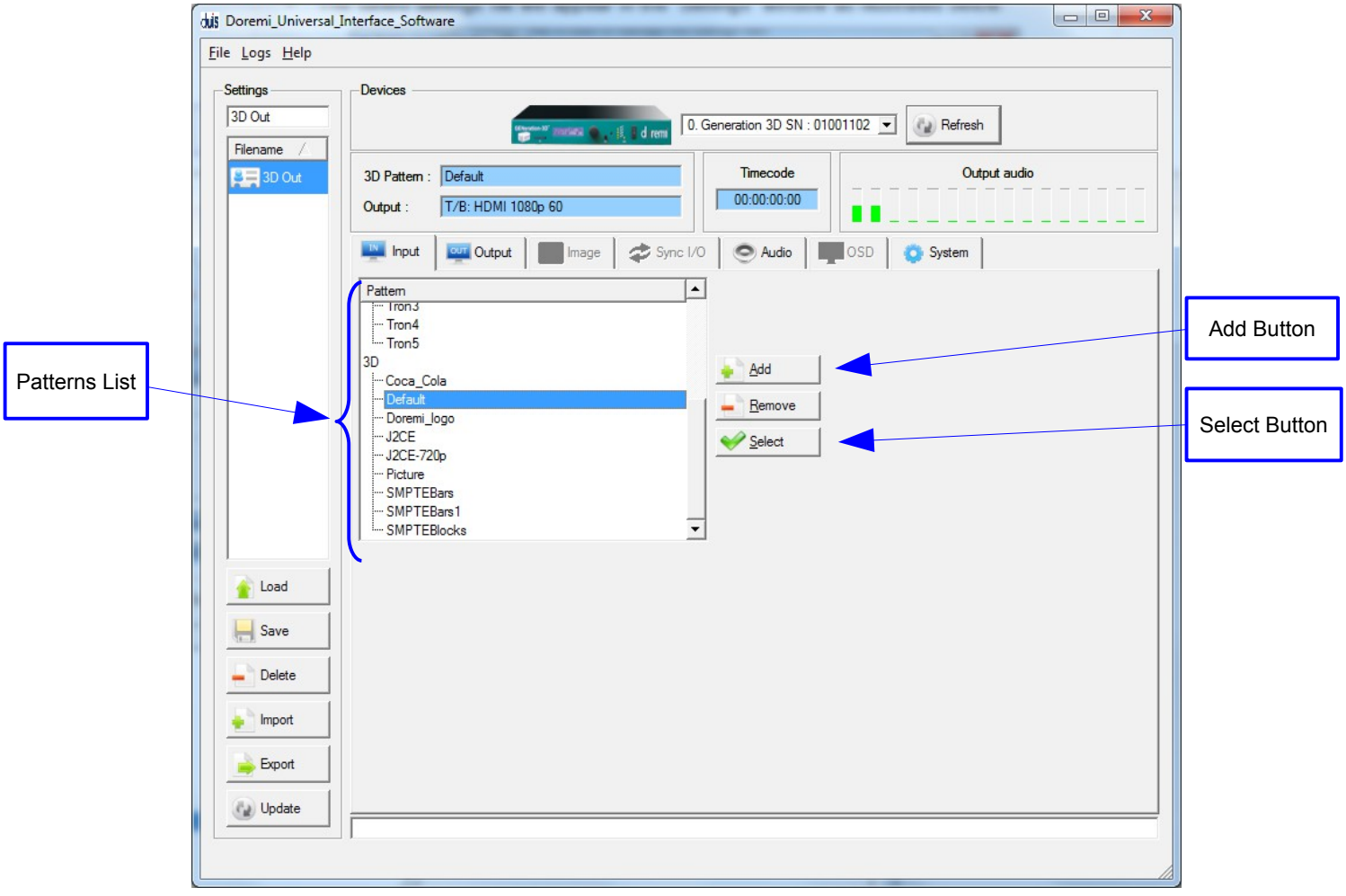


Figure 13: Doremi Universal Interface GUI – Loading Patterns

6.4.1.2 Saving Custom Patterns to the SD Card

1. To save a custom pattern from your PC to the SD card, press the “Add” button (Figure 13).
2. For 2D patterns, click the 2D radio button on the “Send pattern to device” pop-up window (Figure 14).
3. For 3D patterns, click the 3D radio button on the “Send pattern to device” pop-up window (Figure 14).
4. Type a name for the pattern in the “Name” field (Figure 14). This will be the name displayed on the front panel of the Generation 3D and in the Patterns list for this pattern.
5. Press the Browse button next to the “Left pattern” field and locate the file for the left eye image (Figure 14).
6. Press the Browse button next to the “Right pattern” filed and locate the file for the left eye image (Figure 14).
   - For 2D patterns, press the Browse button next to the “Pattern” filed and locate the single image file.
7. Click the “Send” button to send the pattern to the Generation 3D and save it on the SD card (Figure 14).

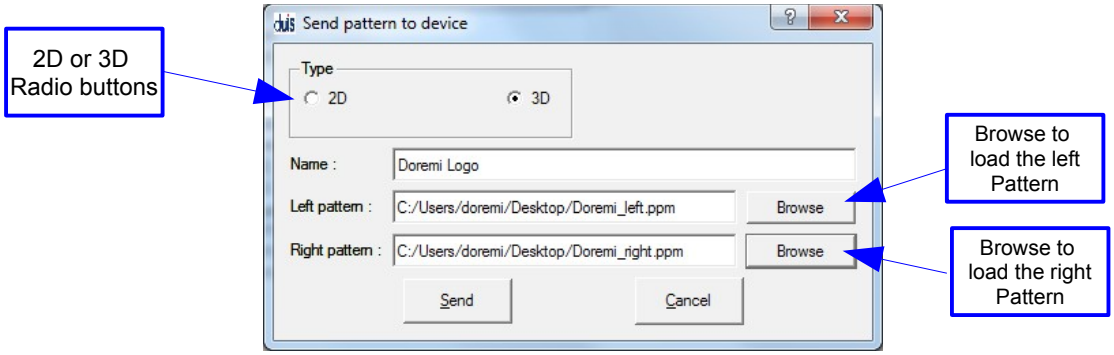


Figure 14: Send pattern to device window

- DUIs will display a loading window while the pattern is being loaded to the device and saved to the SD card (Figure 15).
- Once the load and save are complete, DUIs will display success message (Figure 16).

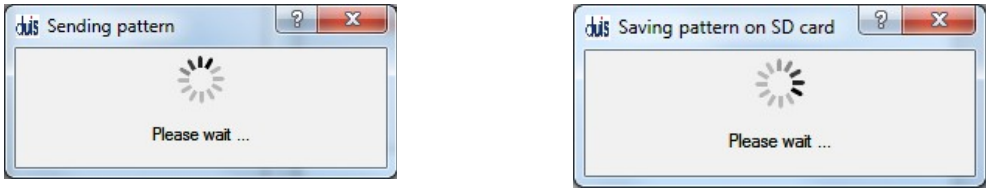


Figure 15: DUIs Loading windows

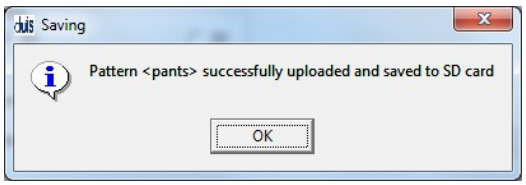


Figure 16: DUIs Success message

6.5 *Output Tab*

- The “Output” tab is illustrated below:

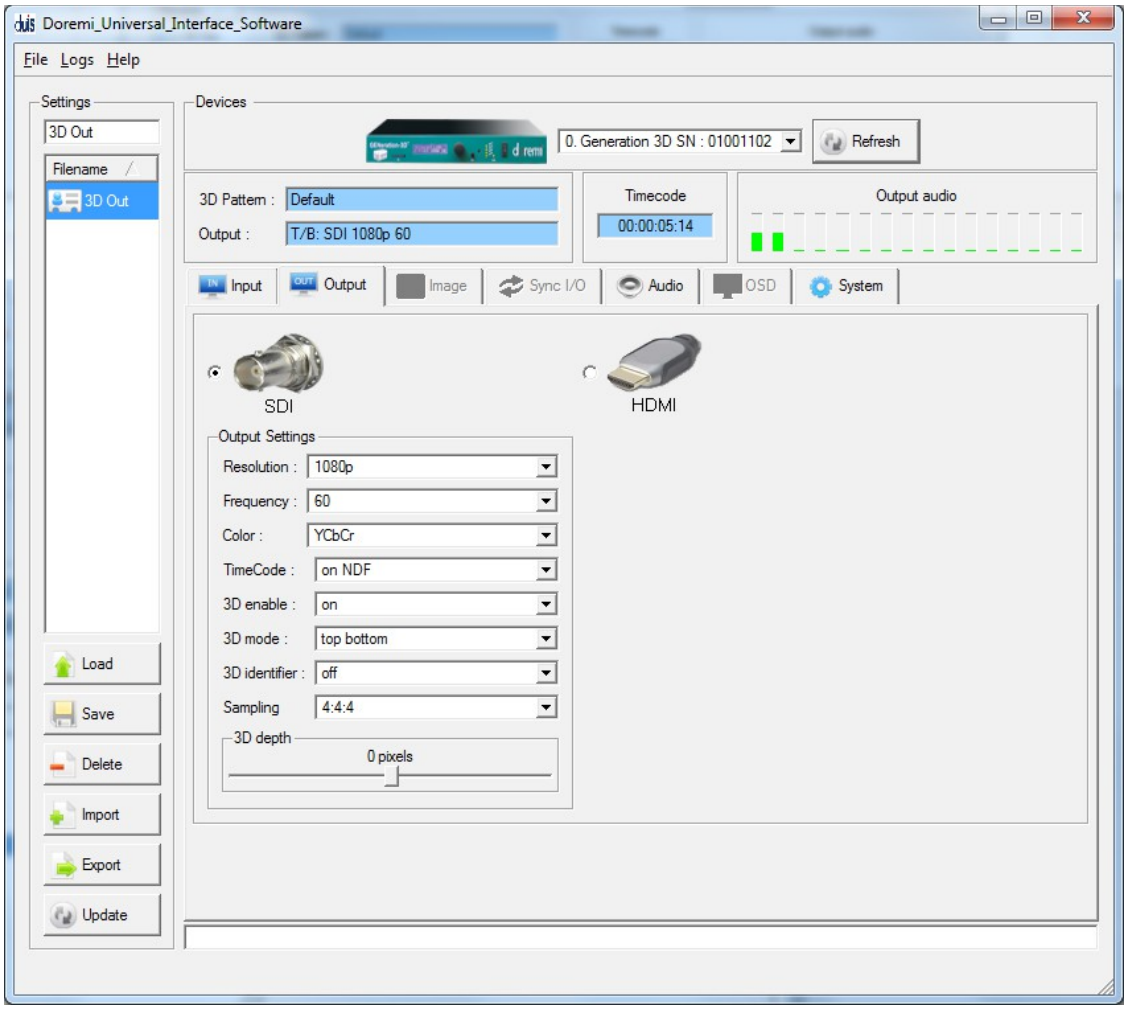


Figure 17: Doremi Universal Interface GUI – Output Tab

Note: All parameters are explained in this manual in Section 3 “Generation 3D Front Panel Controller.”

- Allows the user to select the output interface and modify the preferences.

6.6 *Audio Tab*

- The "Audio" tab when the SDI output interface is selected is illustrated below:

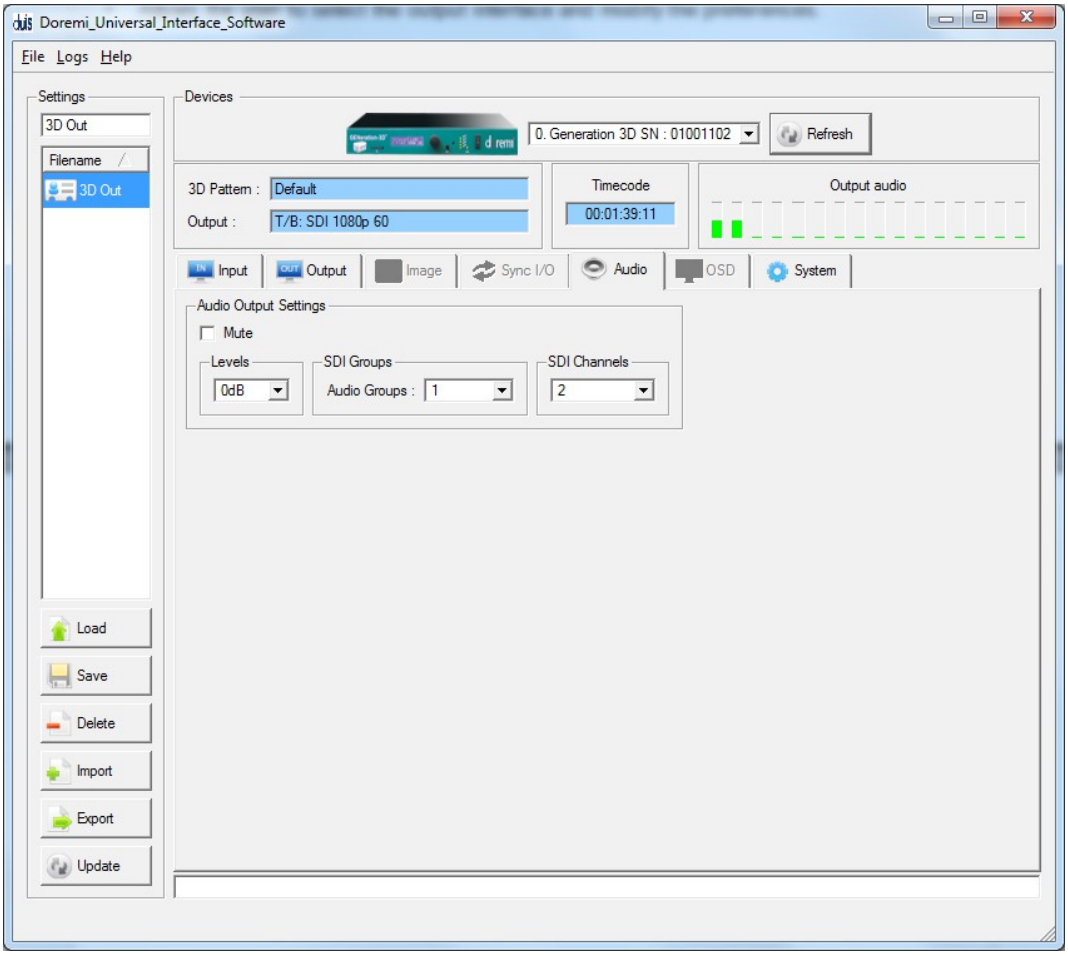


Figure 18: Doremi Universal Interface GUI – SDI Audio Tab

- The "Audio" tab when the HDMI output interface is selected is illustrated below:

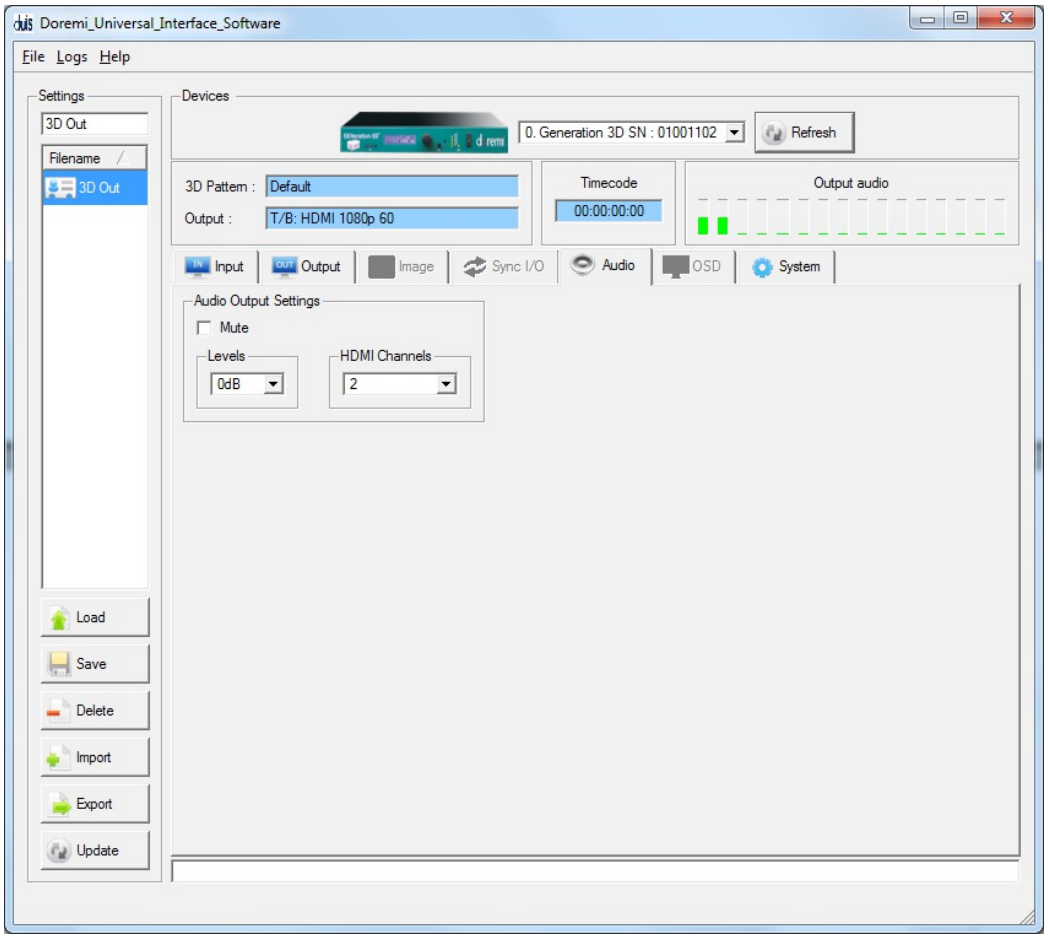


Figure 19: Doremi Universal Interface GUI – HDMI Audio Tab

Note: All parameters are explained in this manual in Section 3 "Generation 3D Front Panel Controller."

6.7 System Tab

- The "System" tab is illustrated below:

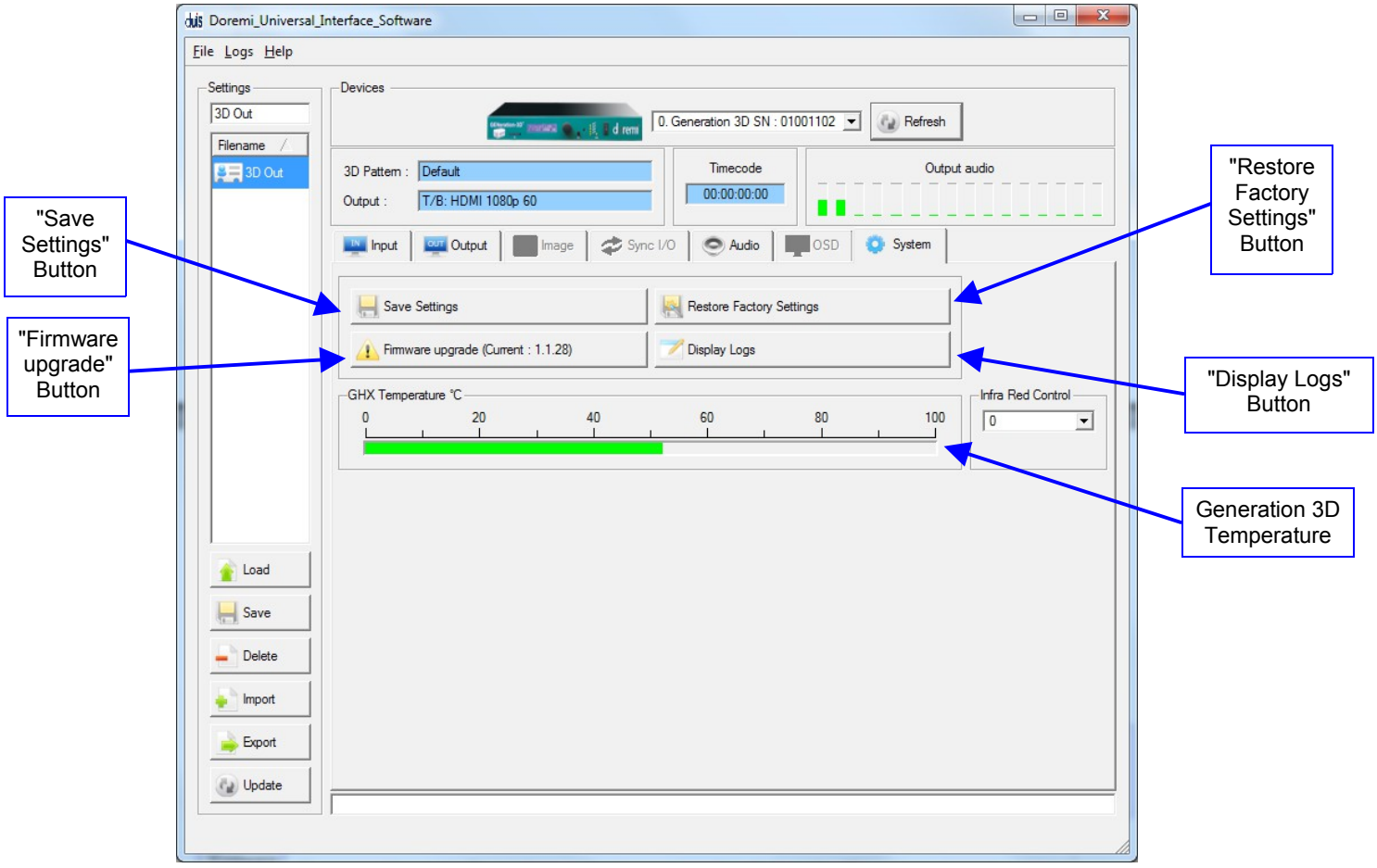


Figure 20: Doremi Universal Interface GUI – System Tab

Note: All parameters are explained in this manual in Section 3 "Generation 3D Front Panel Controller."

- In addition, the "System" tab can be used to perform the following actions:
- Save: To save the current settings to flash, click on the "Save Settings" button (Figure 20).
- Restore: To restore the Generation 3D back to the factory default settings, click on the "Restore Factory Settings" button (Figure 20).
- Firmware Upgrade: To perform a firmware upgrade, click on the "Firmware upgrade (Current: x.yy)" button (Figure 20).

Note: The "Firmware upgrade" button provides the current firmware version installed on the connected unit. It is shown after "Current:" On the image above (Figure 20), the current firmware is version 1.2.15. See Section 7.1 for detailed upgrade steps.

- Logs: To display the logs, click on the “Display Logs” button (Figure 20). A window containing the logs will appear.
- Select “Auto Update” from that window to see all messages (Figure 21).

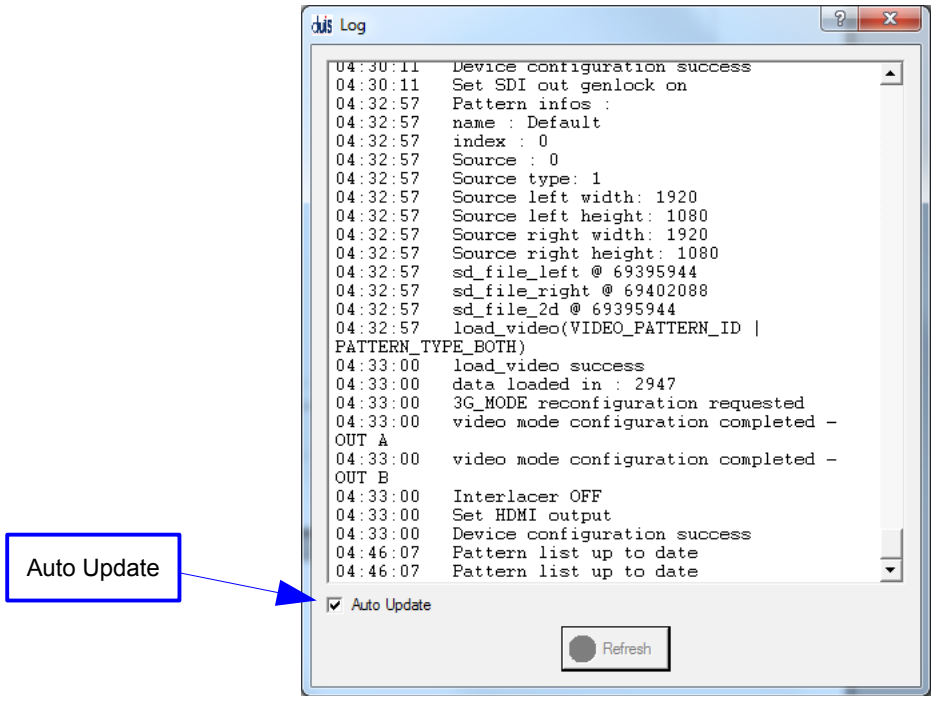

Log
04:30:11 Device configuration success
04:30:11 Set SDI out genlock on
04:32:57 Pattern infos :
04:32:57 name : Default
04:32:57 index : 0
04:32:57 Source : 0
04:32:57 Source type: 1
04:32:57 Source left width: 1920
04:32:57 Source left height: 1080
04:32:57 Source right width: 1920
04:32:57 Source right height: 1080
04:32:57 sd_file_left @ 69395944
04:32:57 sd_file_right @ 69402088
04:32:57 sd_file_2d @ 69395944
04:32:57 load_video(VIDEO_PATTERN_ID | PATTERN_TYPE_BOTH)
04:33:00 load_video success
04:33:00 data loaded in : 2947
04:33:00 3G_MODE reconfiguration requested
04:33:00 video mode configuration completed - OUT A
04:33:00 video mode configuration completed - OUT B
04:33:00 Interlacer OFF
04:33:00 Set HDMI output
04:33:00 Device configuration success
04:46:07 Pattern list up to date
04:46:07 Pattern list up to date
Auto Update
Refresh
Auto Update

Figure 21: Generation 3D logs window

7 Firmware Update

The firmware can be updated through the USB connection or through a Secure Digital (SD) memory card. This section presents both methods. In case one of the files listed below is missing, please contact Doremi Labs (see Section 1.2).

7.1 USB Update

The firmware can be updated through USB using the Doremi Universal Interface GUI as presented in Section 6.7 .

- To perform an update through USB follow the steps below:
- Connect the Generation 3D to a computer using the USB cable provided with the unit.
- Start the Doremi Universal Interface GUI (see Section 6).
- Go to the “System Tab” (see Section 6.7).
- Click on the “Firmware upgrade” button.
- Select the firmware file (e.g., “dd_g3D_1.2.0.bin”) and click on the “Upgrade now” button (Figure 22).

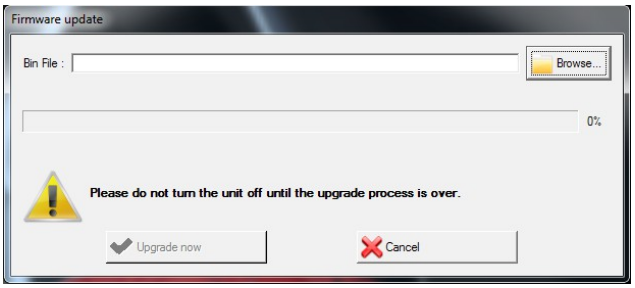


Figure 22: Firmware Update Window

- Once the update is complete, turn off the unit and then power it back on.

7.2 SD Memory Card Update

Note: The SD memory card must be formatted to FAT or FAT32.

- To perform an update with an SD memory card, do the following:
- Copy the firmware file (e.g., “dd_g3D_1.2.0.bin”) on the SD Memory Card.
- Plug the SD Memory card into the SD port of the Generation 3D (Figure 2).
- Power on the Generation 3D and go to the “System” menu (Section 3.7).
- Select the “SD Memory update” sub-menu.
- Select the file to use for the update using the menu scroll wheel (Figure 1).
- Confirm the update.
- Once the update is complete, turn off the unit and then power it back on.

8 Annex A: Specifications

8.1 Inputs

- The Generation 3D has no video inputs.

8.2 Outputs

- Single or Dual Stream HDSDI, 3G SDI.
- Single HDMI Output without HDCP

8.3 Video

- All outputs are in a progressive or interlaced formats up to 2048x1080 in line with current display technologies

8.4 Audio

- 16 channels of audio supported embedded in HDSDI
- 8 channels using HDMI
- 8 channels AES audio outputs

8.5 Supported 3D Modes

- Line by Line
- Side by Side
- Frame packing as defined in HDMI specifications
- Checkerboard (HDMI progressive formats only)
- Top/Bottom
- Dual Stream (HD-SDI only)
- Left Eye (Output only)
- Right Eye (Output only)

9 Acronyms

Term	Definition
AES	Audio Engineering Society
HDMI	High-Definition Multimedia Interface
HD-SDI	High-Definition Serial Digital Interface
IR	Infra-Red
SD	Secure Digital
SDI	Serial Digital Interface

10 Document Revision History

Date	Version	Description
02/07/2012	1.0	First version of the document.
02/16/2012	1.1	Section 4.1 modified.
07/26/2012	1.2	Logo and contact information updated.
02/12/2013	1.3	Minor revisions made to Section 1.